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BEFORE THE ARIZONA CORPORATION COMMISSION

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2012 OCT 11 PM 12 45

IN THE MATTER OF THE APPLICATION OF
TUCSON ELECTRIC POWER COMPANY FOR
APPROVAL OF ITS 2013 RENEWABLE
ENERGY STANDARD IMPLEMENTATION PLAN
AND DISTRIBUTED ENERGY ADMINISTRATIVE
PLAN AND REQUEST FOR RESET OF ITS
RENEWABLE ENERGY ADJUSTOR.

DOCKET NO. E-01933A-12-0296

**COMMENTS OF THE
VOTE SOLAR INITIATIVE**

The Vote Solar Initiative ("VSI") appreciates the opportunity to submit comments to the Arizona Corporation Commission ("Commission") on Tucson Electric Power's ("TEP") 2013 Renewable Energy Standard and Tariff ("REST") Implementation Plan ("Plan"). Our comments focus on Section VI, subsection D of the Plan, titled: Request for guidance on meeting the DG requirement in a post-incentive environment.

The Vote Solar Initiative is a non-profit grassroots organization working to foster economic opportunity, promote energy independence and fight climate change by making solar a mainstream energy resource across the United States. Since 2002, Vote Solar has engaged in state, local and federal advocacy campaigns to remove regulatory barriers and implement the key policies needed to bring solar to scale.

In the Plan, TEP introduces an important policy consideration to the Commission. To date, in Arizona, RECs have been acquired from the owners of DG solar energy systems in return for receiving a financial incentive from a utility for installing the system. The Commission has approved a 'step-down' incentive approach, where incentives decline over time, attempting to match declines in solar energy system prices. As TEP correctly points out, as incentives in their territory continue to drop to zero, a 'post-incentive' world is now a near-term reality. In this 'incentive free' environment, TEP is correct that it will be faced with the problem of determining how to claim and retire the RECs in order to meet the REST requirement, as they will no longer offer an upfront or performance based incentive in exchange for RECs from their customers. We appreciate TEP's proactive attempt to receive guidance on this policy question.

TEP has proposed four avenues to address this compliance issue. VSI presents our response to each suggestion below, and then we propose an alternative proposal, also supported by comments submitted in this docket by the Western Resource Advocates (WRA), and the Renewable Energy Markets Association (REMA).

Arizona Corporation Commissioner

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Response to TEP's REC Compliance Plan Options:

1. Option 1, 3 and 4:

- a. "Change or waive the existing Resource Portfolio Standard ("RPS") to eliminate either the DG requirement, or the requirement to retire REC's associated with the customer-sited distributed generation system and allow the utility to report metered production data in order to show the percentage of sales associated with renewable energy."
- b. Allow utilities to meet the RPS DG requirement by showing a percentage of their sales through metered data without the requirement of retiring REC's (and without altering the existing rules).
- c. In the absence of existing rule changes, allow the utilities to request waivers for meeting the DG requirement through the use of REC retirement and allow the utility to show compliance in an alternative manner.

VSI Response: We oppose all of these approaches. The first option, eliminating the DG requirement, sends a dangerous signal to the solar industry that Arizona is weakening its commitment to DG solar. There are more than 265 solar companies operating in Arizona, including 26 solar manufacturing locations.¹ It cannot be refuted that the RES is directly responsible for the impressive economic development that the solar industry is bringing to Arizona. Now is not the time to stop growth in the solar industry. The other options may present legal challenges, and would likely lead to double counting of RECs (see REMA's comments below in this docket).

As REMA notes in their comments:

[R]esidential and commercial entities that generate RECs must agree to relinquish or sell their RECs. A government agency that allows a utility to claim the inherent value of the REC, even though the utility hasn't purchased the REC, strips the REC value from the rightful REC owner. This constitutes a government taking of private property. To accurately track, trade, and sell renewable energy, the environmental claims of RECs must not be simultaneously claimed by multiple parties. It does not matter whether TEP attempts to demonstrate DG compliance through other means (i.e. metered data), as any implicit or explicit TEP claim to renewable generation without REC ownership would infringe upon the property rights of REC owners. (REMA comments in docket E-01933A-12-0296, submitted 7/27/2012).

2. Option 2: "Allow utilities to modify their existing net-metering tariffs to require customers to surrender all credits and environmental attributes in exchange for net-metering."

VSI Response: We strongly oppose this proposal. TEP's proposal inherently assumes that net metering is a net cost to the utility and thus solar customers should compensate the utility in some form. Before making such an assumption, we urge the Commission to require TEP to commission an independent third party to conduct a comprehensive cost and benefit analysis of net metering in its territory. Net metering is a billing arrangement that gives solar energy

¹ Solar Energy Industries Association, "Arizona State Solar Policy: Arizona". <http://www.seia.org/state-solar-policy/arizona>.

customers fair credit on their utility bills for the valuable clean power they put back on the TEP grid. It is one of the most important policy tools Arizona has for empowering homes, businesses, schools and public agencies to go solar.

Numerous studies across the country have evaluated the overall costs and benefits to ratepayers of net metering or distributed generation in general. These studies take into consideration the value of the solar energy exported to the grid based upon the marginal costs of the displaced energy, the avoided capital cost of installing new power generation due to the added capacity value of the solar PV systems, transmission and distribution expense and line loss savings associated with the systems, and in some cases, environmental benefits.

The results of the most prominent of these studies, RW Beck's 2009 study for APS, Austin Energy's 2012 solar value study, and Crossborder Energy's 2012 study of net metering in PG&E territory in California all show the significant benefits of distributed generation solar.

A good starting point for understanding how various studies on this issue are being conducted across the country is the Solar America Board for Codes and Standards report: "A Generalized Approach to Assessing the Rate Impacts of Net Energy Metering," released earlier this year.² The report reviews and synthesizes three studies performed for major utilities in Arizona, California, and Texas. While the analysis and results of the studies are utility specific, the methodology can be generalized and inform reviews of benefits and costs of distributed solar resources elsewhere. The chart below details the types of benefits and costs that a net metering cost and benefit analysis should include:

Chart 1: Solar ABC's Report List of Costs and Benefits Associated with a Net Metering Program

Benefits to the Utility	Costs to the Utility
Avoided Energy Purchases (inc/fuel)	NEM Bill Credits
Avoided T&D line losses	Program Administration
Avoided Capacity Purchases	
Avoided T&D Investments and O&M	
Environmental Benefits – NO _x , SO _x , PM, & CO ₂	
Natural Gas Market Price Impacts	
Avoided RPS Generation Purchases	
Reliability Benefits	

² Solar America Board for Codes and Standards. January 2012. "A Generalized Approach to Assessing the Rate Impacts of Net Energy Metering." <http://www.solarabcs.org/about/publications/reports/rateimpact/index.html>.

To help the Commission synthesize the results of the most thorough DG solar valuation studies, we present a summary of the findings from the most recent Texas, Arizona and California studies:

- 1) **Texas** - The Value of Distributed Photovoltaics to Austin Energy and the City of Austin (Hoff et al., 2006, followed by a 2008 revision and a 2012 revision).³
- 2) **Arizona** - Distributed Renewable Energy Operating Impacts and Valuation Study (R.W. Beck, Inc., 2009).⁴
- 3) **California**- The third comprehensive solar energy valuation study was part of a broader review of the costs and benefits of net metering for California's largest IOUs, culminating the in issuance of Decision D.09-08-026.⁵

Texas

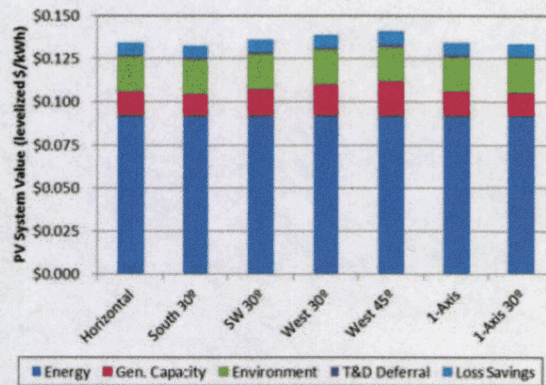
Austin Energy recently developed a "Value of Solar Tariff" (VOST) based upon the 2006 study by Hoff, et al., which segregates the benefits of residential customer-sited solar generation systems from the retail rate. Thus, the residential customer continues paying the fully loaded retail rate for its consumption, while it receives payment for its solar generation separately under the VOST. The value of solar was originally determined in the 2006 study for a variety of differing system configurations. Each year these values are updated and in 2012 formed the basis for the VOST. The value for DG solar in 2012 is presented below.

³ Clean Power Research, L.L.C. Hoff et al. (2012). "Designing Austin Energy's Solar Tariff using a Distributed PV Value Calculator." www.cleanpower.com/wp-content/uploads/090_DesigningAustinEnergySolarTariff.pdf

⁴ R.W. Beck. (January 2009). "Distributed Renewable Energy Operating Impacts and Valuation Study." www.aps.com/files/solarRenewable/DistRenEnOpImpactsStudy.pdf.

⁵ Crossborder Energy. Beach et al. January 2012. "Re-evaluating the Cost-Effectiveness of Net Energy Metering in California." www.votesolar.org/wp-content/uploads/2012/01/Re-evaluating-the-Cost-effectiveness-of-Net-Energy-Metering-in-California-1-9-2012.pdf

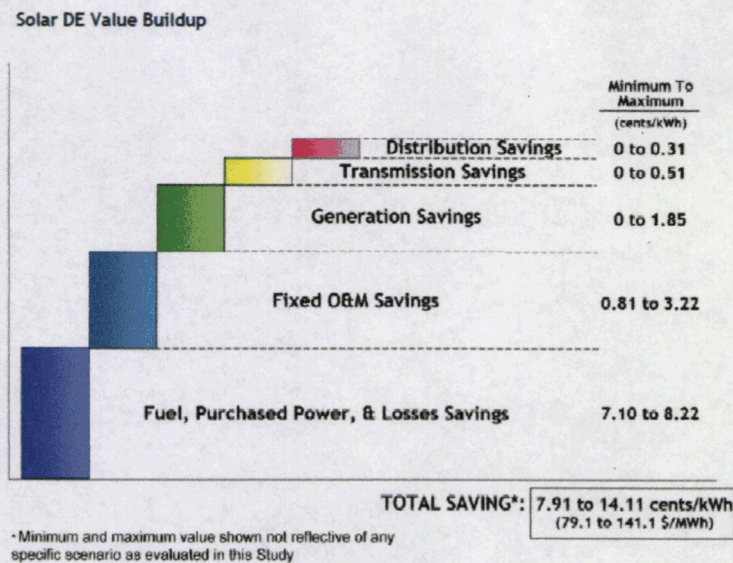
Chart 2: Austin Energy VOST - PV Value Results by Component and Configuration



Arizona

The RW Beck study commissioned by APS and the Commission in 2009 was a participatory process resulting in the following estimated benefits.

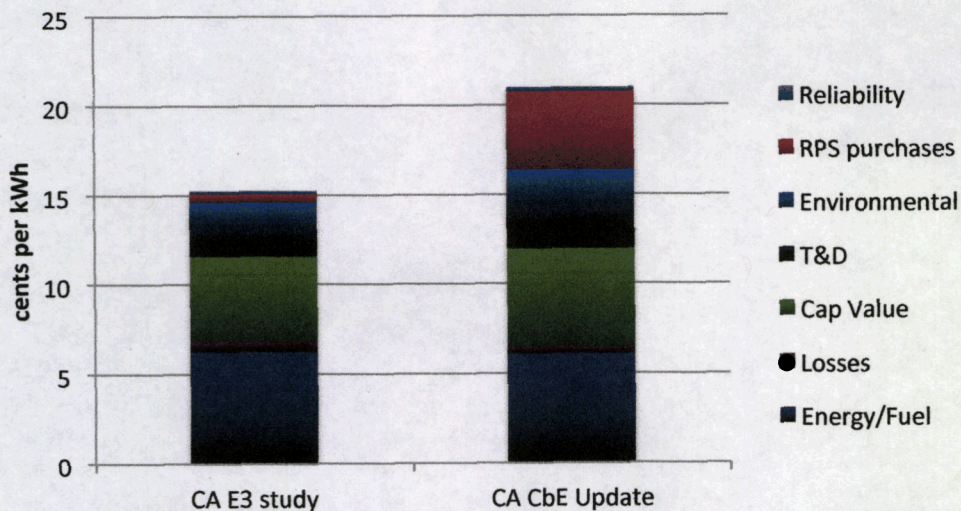
Chart 3: Solar DG Value Buildup



California

The third study was performed by Energy & Environmental Economics, Inc., otherwise known as E3, for the California PUC staff. As a result of the vintage of the E3 study, the rapid pace of change in the utility and solar industries, and the importance of the California solar market, Vote Solar commissioned an update of the E3 study earlier this year by Crossborder Energy (CbE), a CA-based consulting firm. The chart below compares the results of the original E3 study and the CbE update. The California CUP is also in the process of commissioning a 2013 update to the original E3 study.

Chart 4: Comparison of 2009 E3 Study, and 2012 Crossborder Energy Net Metering Valuation Studies



In summary, we highly encourage the Commission to consider commissioning a DG valuation study for TEP's territory before any decision to exchange net metering for RECs is approved. We also note that if such a study is commissioned, an appropriate level of stakeholder engagement in the study's design and execution must be allowed.

VSI Alternative Proposal

Instead of the four options laid out by TEP, we suggest an alternative proposal, also supported by WRA and REMA. Our proposal is a simple market-based solution that will allow TEP to

continue to meet its REST obligations. Our approach is legal, as it preserves DG solar owners' property rights. And, importantly, we believe this approach represents a very low-cost compliance option for TEP in a 'post-incentives' world.

We propose the following Market-based Mechanism: **issue a periodic standard offer for residential RECs.** We believe TEP and the Commission will be able to craft an appropriate standard offer, and we suggest the Commission take into account the following guidelines:

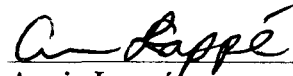
- The standard offer should be issued annually or semi-annually via website (with notification through the monthly newsletter included in each bill) and should remain open for a few days or weeks depending on market response
- TEP should set an initial price at low rate and ratchet up the price, if necessary, to gather sufficient RECs for compliance (at TEP's discretion to pay as-bid or set a market-clearing price)
- The standard offer should be open to system owners and third party aggregators who acquire RECs and/or bid them on customer's behalf.

This is certainly not a new approach. In fact, utilities and load-serving entities are actively conducting market-based solicitations to obtain RECs in the following states: California, Colorado, Connecticut, Delaware Illinois, Maryland, Massachusetts, New Jersey, New Mexico, New York, Ohio and Pennsylvania.

In summary, this approach meets all of the following goals:

- Provides TEP a solution consistent with Arizona law and ACC requirements that does not require special consideration, work-arounds or on-going waivers
- Respects the property rights of solar system owners
- Avoids unnecessary complexity, administrative or regulatory burdens
- Harnesses simple market mechanisms to enable REST compliance at lowest reasonable cost.

VSI appreciates the opportunity to provide these comments on this important policy decision. Respectfully submitted this 9th day of October 2012 by:


Annie Lappé
Solar policy Director
The Vote Solar Initiative
1120 Pearl Street, Suite 200
Boulder, CO 80304
annie@votesolar.org

Original and 13 copies filed with Docket Control, Arizona Corporation Commission, 1200 W. Washington St., Phoenix, AZ 85007. Electronic copies sent to parties of record.